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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,998	08/16/2004	Anand Shridhar SAWANT	TI-36864	4997

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EXAMINER
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MORRISON, JAY A

ART UNIT	PAPER NUMBER
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2168

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/710,998

Applicant(s)

SAWANT ET AL.

Examiner

Jay A. Morrison

Art Unit

2168

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-28 are pending.

#### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. It is noted that the specification discusses prior art (paragraph [0010]-[0012]), specifically listing a patent number and referring to "another prior system"; these pieces of prior art must be listed on the Information Disclosure Statement to assure full disclosure.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-10,20-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must

transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims are useful and concrete, but they fail to produce a tangible result because nothing is stored to non-volatile media or, for example, returned to a user.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2,11,21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "sets of identifiers" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it is assumed that Applicant meant "set of identifiers".

Claim 11 recites the limitation "sets of identifiers" in line 4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it is assumed that Applicant meant "set of identifiers".

Claim 21 recites the limitation "sets of identifiers" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it is assumed that Applicant meant "set of identifiers".

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-4,11-14,20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent Number 6,604,170) in view of Macon, Jr. et al. ('Macon' hereinafter) (Patent Number 5,715,455).

As per claim 1, Suzuki teaches

A method of accessing data contained in a first file, wherein said first file is comprised in a plurality of files stored on a secondary storage, said secondary storage comprising a plurality of clusters, a file allocation table (FAT) indicating a corresponding set of clusters allocated to each of said plurality of files, said method comprising: (see abstract and background)

determining a set of identifiers, wherein each of said set of identifiers identifies a corresponding one of said set of clusters allocated to said first file; (EXT-FAT items, column 6, lines 55-67)

and storing said set of identifiers (column 6, lines 55-67)

wherein storing said set of identifiers in said RAM enables faster access to data related to said first file, and not having to store said entire FAT in said RAM minimizes memory space requirements in said RAM. (Minton v. Nat 'l Ass 'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003) "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited." Examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: (A) "adapted to" or "adapted for " clauses; (B) "wherein" clauses; and (C) "whereby"

clauses. Therefore intended use limitations are not required to be taught, see MPEP § 2106 Section II(C), MPEP 2111.04 [R-3])

Suzuki does not explicitly indicate "in a random access memory (RAM)."

However, Macon discloses "in a random access memory (RAM)" (column 5, lines 33-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki and Macon because using the steps of "in a random access memory (RAM)" would have given those skilled in the art the tools to improve the invention by increasing the speed because of the slow data transfer rate of secondary storage by keep certain data in RAM. This gives the user the advantage of quicker access and less time waiting for data to be read.

As per claim 2, Suzuki teaches

The method of claim 1, wherein each of said plurality of clusters is identified by a corresponding one of a plurality of identifiers, said FAT storing each of said sets of identifiers in the form of a linked list, wherein an order specified by said linked list indicates the sequence in which said set of clusters are used to store data contained in said first file, said method comprising: (column 6, lines 55-67)

traversing said linked list to retrieve said set of identifiers in said order, wherein said storing stores said set of identifiers in said RAM. (figure 9, column 6, lines 55-67; column 9, lines 25-32)

As per claim 3, Suzuki teaches

said set of identifiers are stored according to a technique by which each of said set of identifiers can be retrieved with fewer instructions than the number of instructions required to access the same identifier from said FAT in said secondary storage. ('can be' denotes an optionally recited limitation and optionally recited limitations are not guaranteed to take place and are therefore not required to be taught, see MPEP § 2106 Section II(C))

As per claim 4, Suzuki teaches

wherein said set of identifiers are stored in the form of an array from which each identifier can be retrieved by a single access. ('can be' denotes an optionally recited limitation and optionally recited limitations are not guaranteed to take place and are therefore not required to be taught, see MPEP § 2106 Section II(C))

As per claims 11-14,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-4 and are similarly rejected.

As per claims 20-23,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-4 and are similarly rejected.



9. Claims 5-6,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent Number 6,604,170) in view of Macon, Jr. et al. ('Macon' hereinafter) (Patent Number 5,715,455) and further in view of Wong et al. ('Wong' hereinafter) (Patent Number 5,890,169).

As per claim 5,

Suzuki does not explicitly indicate "receiving a start offset of data to be accessed; computing a cluster index by dividing said start offset by a number of bytes in each of said plurality of clusters; and accessing said array using said cluster index to determine a specific one of said set of identifiers, wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers."

However, Wong discloses "receiving a start offset of data to be accessed; computing a cluster index by dividing said start offset by a number of bytes in each of said plurality of clusters; and accessing said array using said cluster index to determine a specific one of said set of identifiers, wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers" (column 22, line 61 through column 23, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki, Macon, and Wong because using the steps of "receiving a start offset of data to be accessed; computing a cluster index by dividing said start offset by a number of bytes in each of said plurality of clusters; and accessing said array using said cluster index to determine a specific one of said set of identifiers,

wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers” would have given those skilled in the art the tools to improve the invention by maximizing I/O performance. This gives the user the advantage of better use of computing resources giving better response times.

As per claim 6, Suzuki teaches

data stored in said file represents a song. (data on the disk, column 6, lines 30-42; note: a song is nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).)

As per claim 16,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

10. Claims 7-10,17-19,26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent Number 6,604,170) in view of Hylands et al. (‘Hylands’ hereinafter) (Publication Number 2004/0205697)

As per claim 7, Suzuki teaches

A method of implementing an application in a system containing a small memory, wherein said system supports a file system on a secondary storage, wherein said secondary storage comprises a plurality of clusters, wherein said file system comprises a plurality of files and each of said plurality of files is stored in a corresponding one of a plurality of sets of clusters, said plurality of sets of clusters being contained in said plurality of clusters, said method comprising: (see abstract and background)

providing a first module which is designed to determine a plurality of identifiers corresponding to a specified file and store said plurality of identifiers according to a convention, wherein said plurality of identifiers specify a set of clusters corresponding to said specified file, said set of clusters being contained in said plurality of sets of clusters; (EXT-FAT items, column 6, lines 55-67)

providing a second module which is to perform an operation on a file of interest, wherein said second module is designed to determine a desired cluster by using said plurality of identifiers stored according to said convention; (figure 9, column 6, lines 55-67; column 9, lines 25-32)

executing said first module while specifying said file of interest as said specified file such that a plurality of identifiers corresponding to said file of interest are stored according to said convention; (column 6, lines 55-67)

Suzuki does not explicitly indicate "and executing said second module after executing said first module, wherein both of said first module and said second module are executed using at least some of the same locations of said small memory."

However, Hylands discloses “and executing said second module after executing said first module, wherein both of said first module and said second module are executed using at least some of the same locations of said small memory” (overlays, paragraph [0020]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki and Hylands because using the steps of “and executing said second module after executing said first module, wherein both of said first module and said second module are executed using at least some of the same locations of said small memory” would have given those skilled in the art the tools to improve the invention by allowing a program with large memory requirements to fit into a small memory footprint. This gives the user the advantage of being able to run larger programs with less memory resources.

As per claim 8,

Suzuki does not explicitly indicate “said second module is overlaid on the same memory space on which said first module is loaded during execution.”

However, Hylands discloses “said second module is overlaid on the same memory space on which said first module is loaded during execution” (paragraph [0020]-[0021])

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki and Hylands because using the steps of “said second module is overlaid on the same memory space on which said first module is

loaded during execution” would have given those skilled in the art the tools to improve the invention by allowing a program with large memory requirements to fit into a small memory footprint. This gives the user the advantage of being able to run larger programs with less memory resources.

As per claim 9,

Suzuki does not explicitly indicate “said convention comprises storing said plurality of identifiers at a prespecified portion of RAM.”

However, Hylands discloses “said convention comprises storing said plurality of identifiers at a prespecified portion of RAM” (target memory, paragraph [0049]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki and Hylands because using the steps of “said convention comprises storing said plurality of identifiers at a prespecified portion of RAM” would have given those skilled in the art the tools to improve the invention by allowing a program with large memory requirements to fit into a small memory footprint. This gives the user the advantage of being able to run larger programs with less memory resources.

As per claim 10, Suzuki teaches

each of said plurality of files stores data representing a corresponding song. (data on the disk, column 6, lines 30-42; note: a song is nonfunctional descriptive material and are not functionally involved in the steps recited. Thus, this descriptive

material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).)

As per claims 17-19,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 7-9 and are similarly rejected.

As per claims 26-28,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 7-9 and are similarly rejected.

11. Claims 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent Number 6,604,170) in view of Macon, Jr. et al. ('Macon' hereinafter) (Patent Number 5,715,455) and further in view of Shnelvar (Patent Number 6,374,266).

As per claim 15,

Suzuki does not explicitly indicate "said array comprises an associative array."

However, Shnelvar discloses "said array comprises an associative array" (column 33, lines 44-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki, Macon, and Shnelvar because using the steps

of "said array comprises an associative array" would have given those skilled in the art the tools to improve the invention by ensuring faster access to the data. This gives the user the advantage of not having to wait as long for data access.

As per claim 24,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 15 and is similarly rejected.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent Number 6,604,170) in view of Macon, Jr. et al. ('Macon' hereinafter) (Patent Number 5,715,455) and further in view of Shnelvar (Patent Number 6,374,266) and further in view of Wong et al. ('Wong' hereinafter) (Patent Number 5,890,169).

As per claim 25,

Suzuki does not explicitly indicate "means for receiving a start offset of data to be accessed; means for computing a cluster index by dividing said start offset by a number of bytes in each of said plurality of clusters; and means for accessing said array using said cluster index to determine a specific one of said set of identifiers, wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers."

However, Wong discloses "means for receiving a start offset of data to be accessed; means for computing a cluster index by dividing said start offset by a number

of bytes in each of said plurality of clusters; and means for accessing said array using said cluster index to determine a specific one of said set of identifiers, wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers" (column 22, line 61 through column 23, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Suzuki, Macon, Shnelvar, and Wong because using the steps of "means for receiving a start offset of data to be accessed; means for computing a cluster index by dividing said start offset by a number of bytes in each of said plurality of clusters; and means for accessing said array using said cluster index to determine a specific one of said set of identifiers, wherein said data to be accessed is present in a cluster identified by said specific one of said set of identifiers" would have given those skilled in the art the tools to improve the invention by maximizing I/O performance. This gives the user the advantage of better use of computing resources giving better response times.

### ***Conclusion***

13. The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tim Vo', with a long, sweeping horizontal stroke extending to the left.

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